Case Based Pediatrics For Medical Students and Residents
Department of Pediatrics, University of Hawaii John A. Burns School of Medicine

Chapter XIV.12. Child Abuse

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Return to Table of Contents

A two month old male infant is brought to the emergency department (ED) with a chief complaint from the parents as having a "breath holding spell ". They describe the infant as turning blue and he stopped breathing. They shook the baby and blew a breath of air into his face. He started crying. There is no history of fever, coughing, congestion, vomiting or seizures.

He is the product of a full term delivery born to a 17 year old primigravida mother who is unmarried. She and the baby live with the grandmother. The 18 year old father is involved in the care of the baby. The infant's birth weight was 3.89 kg (8 pounds, 9 ounces) (90%ile). He now weighs 4.69 kg (10 pounds, 5 ounces) (25%ile). The mother says that the infant is doing well but he has not yet received any immunizations.

The infant is hospitalized for observation, monitoring and workup for an ALTE (apparent life threatening event) which could include the following: gastroesophageal reflux study, sleep study (for apnea), sepsis work up (CBC, blood culture, lumbar puncture, urine culture, chest x-ray). Since his growth percentile has fallen from the 90%ile to the 25%ile, a dietary history is obtained and the patient is observed in the hospital for weight gain. Since this is a single teenage mother, which places the infant at some risk for social and medical problems, a social work consultation is obtained.

The sepsis work up, reflux study and the sleep study are all normal. The dietitian determines that the mother, due to lack of knowledge, was giving the infant an inadequate amount of formula each day. He feeds well and gains weight in the hospital. The patient is sent home on a home monitor and the family is instructed to see the infant's primary physician in two days for follow-up weight checks.

He returns to the ED two months later (4 months of age) with repeated seizures during the afternoon. The mother describes that the infant fell off the couch at noon. He hit his face and had jerking motions of his arms and legs lasting 15 seconds. The mother states that the episode resolved and he seemed well. He was placed in a crib for a nap. Three hours later she went to his crib and found him having a tonic-clonic seizure of all extremities, which lasted one minute. He appeared lethargic. He vomited once and had three more similar episodes. When the grandmother returned home from work four hours later, they drove him to the ED where he is noted to be lethargic, with the following vital signs: P 120, R30, BP 70/40. Wt 6 kg (25%ile), Ht 66 cm (75%ile), HC 42 cm (50%ile). His exam is remarkable for a full fontanel, a weak cry, and dried blood on his upper gum with a frenulum tear. He has no signs of external head trauma or body bruises. His pupils are equal and reactive to light. The retina are difficult to examine.

When obtaining more history from the mother, she also notes that he still has not had any immunizations. She describes him as being irritable and a difficult baby to console, and a poor feeder. His stools are described as normal.

A CT scan of the brain shows a right subdural hematoma with generalized cerebral edema. He is admitted to the pediatric ICU. Initial labs are normal, but a skeletal survey demonstrates several rib

fractures and a right tibia fracture. An ophthalmologist is consulted who determines that there are bilateral retinal hemorrhages.

What constitutes child abuse can differ among individuals and societies. In some societies child employment is viewed as abusive, while in others it is seen as necessary and normal. Child abuse must be defined within each society. We may define child abuse as any act that causes bodily injury, emotional or psychological harm, physical neglect or sexual abuse. Some child advocates strongly support a definition that includes not only overt acts that cause harm but includes acts that may have potential harm.

In the United States, federal and state legislation defines both child abuse and neglect. The Child Abuse Prevention and Treatment Act of 1974 (CAPTA) (1) is federal legislation that offers guidelines that states are required to incorporate into their legal definitions of child abuse. Each state develops its own definition based on these guidelines. Many states define abusive acts as ones that cause harm or potential harm. Some states specify conditions that are exceptions to the definition of abuse. An example of one such exception could be religious reasons for which parents choose not to seek medical care for their children. The parents would be exempt from charges of child neglect for not following medical advice. Other conditions that result from poverty, use of corporal punishment and traditional medical therapies may also be except in certain jurisdictions.

States are allowed to develop their own definitions of child abuse and neglect. Therefore they vary in how specific those definitions are. The definition may be very broad which allows the state child protective services to use their discretion in determining whether abuse has occurred. A common form adopted by states is a separate definition used for physical abuse, neglect, sexual abuse and exploitation, and emotional abuse. A few states have added abandonment in their definition of neglect.

In the state of Hawaii, child abuse has been defined as: the acts or omissions of any person that have resulted in the physical or psychological health or welfare of the child who is under the age of 18 to be harmed or to be subject to any responsible foreseeable, substantial risk of being harmed. The acts or omissions are indicated for the purposes of reports by circumstances that include but are not limited to (2):

1) When the child exhibits evidence of substantial or multiple skin bruising or any other internal bleeding, any injury to skin causing substantial bleeding, malnutrition, failure to thrive, burn or burns, poisoning, fracture of any bone, subdural hematoma, soft tissue swelling, extreme pain, extreme mental distress, gross degradation, death -- when such condition or death may not be the product of an accidental occurrence.

2) When the child has been the victim of sexual contact or conduct, including, but not limited to sexual assault as defined in the penal code, molestation, sexual fondling, incest or prostitution, obscene or pornographic photographing, filming, or depiction or other similar forms of sexual exploitation.

3) When psychological capacity of a child exists, as is evidenced by an observable and substantial impairment in the child's ability to function.

4) When the child is not provided in a timely manner with adequate food, clothing, shelter, psychological care, physical care, medical care or supervision.

5) When the child is provided with dangerous, harmful, or detrimental drugs.

All fifty states have specified which individuals are legally required to report potential child abuse cases. Generally people who have frequent interactions with children are mandated to report the case. Examples of professions that are frequently cited are teachers, social workers, law enforcement officers, health care providers, day care center employees, and coroners. Some states, such as Delaware, Florida and Tennessee require all individuals to be mandated reporters when they have a reasonable suspicion of child abuse.

How extensive is the problem of child abuse in the United States? In 1999 there were approximately 3 million cases referred to child protective services in the United States. In a third of these cases, child abuse was ruled out. Annually, there are 826,000 victims who suffer significant child abuse. Of these, approximately 480,000 (58%) were victims of neglect, 175,000 (21%) suffered physical maltreatment and 90,000 (11%) were subjected to sexual abuse (3).

The largest majority of children who are victims of child abuse are under the age of 3 years. This age group accounts for most of the fatalities. Of the 1100 children who died in 1999 of abuse, 470 (43%) of them were under 3 years of age and 946 (86%) of them were under 6 years of age. A significant number of these deaths are due to head injury, but neglect accounted for 420 of these deaths (3).

Child abuse can occur in any socioeconomic or cultural group. Epidemiological data has been reviewed to identify possible risk factors for the occurrence of child abuse. Factors that may have an increased risk include poor economic conditions (4), history of abuse in the caregiver, spouse abuse (5), premature infants, developmentally disabled children, and substance abuse in the caregiver. A history of a delay in seeking medical treatment, recent major stresses in the family, unrealistic expectations for the child, and a negative attitude toward the child are conditions that should alert the practitioner to the possibility of child abuse.

The types of physical abuse a clinician will encounter may range from bruising to severe head trauma with battering. A child may present with fractures, burns, cuts, bites, blunt trauma to the abdomen, and head trauma. To identify those injuries that are accidental and those that are intentional, a clinician must be familiar with the mechanisms of injuries, the developmental capabilities of the child and patterns of injuries.

DiScala et al, reviewed the differences between children who had injuries due to accidental trauma, and those who sustained injuries due to child abuse. In their review of over 18,000 children they found that children who were victims of child abuse were more likely to have been hurt by battering and shaking while accidental injuries were usually the result of falls. Abusive injuries were more likely to result in intracranial, thoracic and abdominal injuries. Child abuse resulted in more deaths, more severe injuries and more long-term disabilities (6).

One of the major keys in determining the difference between accidental injuries and abusive ones is that in abuse, the description of the incidents does not match the injury. A history of a minor fall in a child who presents with severe brain injury (brain swelling, subdural hematoma, ruptured intracranial blood vessels) is not compatible with a minor fall as the cause. The case at the beginning of this chapter presented a classic example of this, in which the history of a fall off the couch is alleged to have caused the seizures, cerebral hemorrhages, retinal hemorrhages and fracture.

Children may experience different fracture patterns than adults because of anatomical differences in the structure of their bones. The immature bone has different amounts of cartilage and the periosteum is

thicker. Children have a growth plate and the metaphyseal and epiphyseal junction is prone to separation. Pediatric fractures are often associated with plastic deformation such that when the bone is bent, a permanent deformity occurs. The mechanism for fractures in children and adults can be the same, which includes blunt trauma to a bone with significant force to cause a fracture, twisting motions, and/or severe shaking that can fracture bones (7).

Injuries that are suspicious for child abuse are spiral fractures in non-ambulatory infants, which are due to twisting motions of the humerus and/or femur. The metaphyseal fractures of long bones that are often associated with severe shaking are particularly suggestive of child abuse. As occurred in the case study of this chapter, children who present with rib fractures without a history of significant chest trauma, are suspected of child abuse. Posterior rib fractures in a child who only has a history of minor falls are specific for intentional trauma. Other types of fractures that should alert the practitioner are multiple fractures, fractures of different ages, and a patient with fractures and other associated injuries. It is important to emphasize that a clinical history that is inconsistent with the type of fractures should raise suspicion of child abuse (8).

Skull fractures are the second most common skeletal injury seen in abused children (9). These fractures are often associated with intracranial injuries unlike unintentional injuries that are usually uncomplicated simple fractures. The size, location, numbers and whether a skull fracture is depressed is dependent on the degree and velocity of the force that impacts the child's head. It is important to emphasize that a clinical history that is inconsistent with the type of fracture should raise suspicion of child abuse. It is not credible that a child who is one month old can roll off a bed and fall a short distance to a carpeted floor and sustain a severe skull fracture with intracranial bleeding and retinal hemorrhages.

Bruising is due to bleeding into the dermis. Bleeding may be secondary to local trauma, coagulation abnormalities from clotting factor or platelet deficiencies, and vasculitis from various causes. Bruises have a tendency to follow different staging as they resolve. The area may initially be swollen, then turn a red or reddish blue color, then progress to green, yellow, brown, before clearing. Many authors have attempted to age bruises by their appearance. Many variables can affect the progression of a bruise including difference in circulation to the area, thickness of the skin, and depth and location of the bruise. Dating bruises to precise days or weeks, therefore, has been called into question (10).

Bruising is the most common external sign of child abuse, and it is also common in everyday childhood activities. As toddlers and children move forward, they may fall or bump into objects that can lead to bruising. Normally children who fall develop bruises that are located on their forehead, elbows, shins, and knees. Areas that are more likely to be bruised due to intentional injuries are the buttocks, genitals, perineal area, chest and back. Some bruises show patterns that may suggest the form of trauma. Examples are slap marks from fingers, bite marks, and pinching areas like the nose or ear lobes.

Some bruises are marks left by objects that are used to strike a child. Marks that look like loops are due to cords or rope that are looped before hitting a child. Bruising patterns have been described that match a belt buckle, spatula, iron, knife wounds, hairbrush, teeth marks, and numerous other objects. Often when authorities visit the home to investigate child abuse allegations, these objects are located.

Burns whether inflicted or accidental have a significant morbidity, mortality, and can require extensive medical, surgical, and physical therapy. These children may require plastic surgery and reconstructive surgery over months to years and sustain life long deformities. It is the obligation of health care providers to recognize those injuries that are suspect of child abuse and make reports to appropriate agencies.

A child may be burned from contact with hot liquids, hot objects or direct flames. Burns caused by hot liquids can have characteristic patterns when a toddler pulls a pot of hot liquid down or when someone pours a liquid over them. The liquid rolls down by gravity. The areas touched first receive the hottest liquid and the deepest burn, and those further down are less severely burned as the liquid cools. Since the liquid spills in a random splash, the burns are random. Immersion burns are more characteristic of child abuse. The child is held in hot liquid that creates burn lines where there are clear lines of demarcation of spared and burned areas. These burns may include the lower limbs only or the buttocks and perineum. Children who are put in hot water in a sitting position have a characteristic central clearing where the child's buttocks touches the bottom of the bathtub (which is slightly cooler). Limbs that are immersed have a demarcation that gives a stocking or glove pattern.

Cigarette burns are not uncommon skin lesions seen in child abuse. The marks left are circular with a deep center and devoid of hair. Toddlers may walk into a cigarette but these burns are not as deep and they are usually a single burn on the face or hands. Multiple cigarettes burns or burns located on the back, chest or legs are consistent with child abuse.

Lesions that can mimic child abuse include "coining" which is an Asian home remedy of heating coins and rubbing them on the child's back, which leaves linear bruising. Impetigo has been mistaken for cigarette burns. Bruising due to bleeding disorders like hemophilia, or platelet disorders, Henoch-Schonlein purpura, or Mongolian birthmarks have been misdiagnosed as inflicted injuries. Fractures may be due osteopenia in disabled children, and occult forms of osteogenesis imperfecta can be associated with pathologic fractures and bruising.

Children can be subject to numerous physical injuries but head trauma is the most common cause of death. The injuries can be due to direct impact or from acceleration and deceleration injuries. Patients can then develop extracerebral bleeding due to tearing of bridging vessels causing subdural and/or subarachnoid bleeding. The subdural hematomas often extend into the interhemispheric fissures. Cerebral edema often develops and may be the result of anoxia, poor perfusion, and/or direct tissue injury. While the areas of bleeding may be small on imaging studies, this does not reflect the degree of cerebral injury which is often substantial. Cellular death and axonal shearing are not easily visualized on CT scans. Neurosurgical evacuation of hemorrhage does not repair cerebral cellular and axonal injury.

These injuries are more common in infants and are the result of shaking battered child syndrome (also called shaken baby syndrome). Infants are more susceptible to these types of injuries due to the higher water content of the brain, poor neck control, proportionally larger head size, and more demyelinated nerve cells. The outcome of these injuries can result in brain death, cerebral atrophy, and chronic subdural collections. These children may remain in a coma, have developmental delays, seizure disorders, blindness and/or deafness (11).

The clinical presentation of shaken baby syndrome is often vague. There is usually minimal or no history of trauma and the spectrum of clinical signs range from poor feeding, vomiting, seizures to complete cardiopulmonary arrest. The symptoms are the result of intracranial injuries which may include subdural hemorrhage and/or subarachnoid hemorrhage, cerebral edema and shearing injuries to brain cells (12). Often these infants have no outward signs of abuse. Their intracranial injuries are associated with retinal hemorrhages and sometimes with long bone fractures or rib fractures. Since victims of shaken baby and other forms of child abuse can present with various signs and symptoms that at first glance may not suggest intentional trauma, the practitioner must have a high index of suspension and include child abuse in the differential diagnosis.

Besides head trauma, children may experience abdominal or thoracic injuries. These occur less often than other forms of physical injury. Abdominal injuries are most likely due to blunt trauma and can

result in hematoma or laceration of the pancreas, duodenum and or the jejunum. These injuries can lead to hypotension, abdominal distention, vomiting, and ileus. These patients respond well to medical treatment. Blunt abdominal trauma may also result in visceral rupture to organs such as the liver, spleen pancreas, or major abdominal vessels. These children present very ill in shock with significant hemorrhaging, hypotension and possibly a full cardiopulmonary arrest.

Determining whether injuries sustained by infants and children are due to abuse or accident, can be difficult. The clinician should be alert to histories that do not adequately explain the injuries. It is then important to perform a complete assessment.

First and foremost, it is important to obtain a full medical history, which should include a complete description of the event in the caretakers own words. A story that is suspect, is one that does not match the injuries and changes over time. Include a developmental history and the current developmental capabilities of the child. Often, the history may include acts performed by the child that they are not developmentally capable of. For example, a seven month old infant is reported to have turned on the hot water faucet and got in the bath tub of hot water, when at seven months, they are not ambulatory, nor can they turn a faucet. Ask questions to determine if the family keeps medical appointments, the support system for the family, if any family stresses are present, the caretaker's perception of the child, and how they use discipline. Also obtain information about other hospitalizations, surgeries or previous injuries. A history of visiting multiple emergency rooms and numerous physicians may be a clue to attempts to avoid being reported to child protective services.

The physical exam should be complete and a record made of all outward signs of abuse. A body diagram should be used to describe the location, size, number, and characteristics of skin lesions. Good quality photographs should be taken to record the lesions. It is important to obtain measurements of height, weight, and head circumference and determine where the child plots on a growth curve. If there is any suspicion of sexual abuse, a specialist trained to do a complete medical and forensic evaluation should be consulted. Often a funduscopic exam is required to determine if retinal hemorrhages are present, and this exam is best done by an ophthalmologist after giving medication to dilate the pupils.

Laboratory tests and X-rays, will in part be determined by the clinical presentation of the child. Full skeletal survey x-rays should be obtained to diagnose obvious fractures and to look for occult fractures. A nucleotide bone scan may be considered because it may identify new fractures more clearly. The fractures should be aged as new or dated in various degrees of healing. Other x-rays to consider are chest x-ray, MRI or CT of the head and abdomen especially if there is any suspicion of possible intracranial or abdominal injuries. A CBC looking for any anemia or thrombocytopenia, electrolytes, PT, PTT, blood and urine cultures should be obtained. Other laboratory results to consider are liver enzymes and lipase if abdominal injuries are suspected.

Initially, a clinician, may not be able to confirm the presence of child abuse. However, the law requires that any suspicion of child abuse must be reported. Definite and/or severe cases of child abuse will require hospitalization or removal of the child from the home immediately. However, cases which are not confirmed and/or are not as serious, represent a dilemma for the clinician. Hospitalization and immediate foster placement is not necessarily indicated. But an immediate report to child protection authorities is still required because there is suspicion of child abuse. Should parents be told that you are about to report these circumstances to the child protection authorities? The answer to this is controversial, but it may be better to be honest with the parents, since they will probably find out who reported the incident later on. The best way to inform the parents that a report to child protection authorities is about to be made, is to point at an X-ray or injury and inform them that, "Whenever this type of injury occurs" (while pointing at the X-ray or injury), "the law requires that I report this to the child protection authorities. They might call you, so tell them what happened." If there is a fracture on

an X-ray, point at the X-ray when saying this. If there is a bruise or burn, point at the bruise or burn when saying this. This is perceived as non-judgmental. It is almost as if you are reporting the X-ray or the injury, and not the parent or child. Compare this to "I have to report this to the child protection authorities, because this is suspicious for child abuse." This latter method often results in hostility, while the former method is non-judgmental which most often results in a neutral response from the parents.

There are unique forms of child abuse such as failure to thrive, Munchausen syndrome by proxy, maternal drug abuse and sudden infant death syndrome. Munchausen syndrome by proxy is a form of recognized child abuse in which a child presents with unexplained illnesses that are either fabricated or inflicted by the parents. Most often it is the mother who is the perpetrator. There are case reports of mothers that go to great lengths to make their children appear ill. Mothers have administered medication such as ipecac syrup to induce vomiting, injected feces under the skin to produce infection, and induced apnea with a pillow over the child's head. Common characteristics of this syndrome include: 1) a child presenting with recurrent illnesses, 2) the parent has some medical knowledge, 3) the mother does not seem concerned about the child's illness, 4) the mother is hypervigilant in the hospital and will not leave the child's bedside, 5) the symptoms do not occur when the mother is away from the child, and 6) the father is often absent (13).

What is sudden infant death syndrome (SIDS) and how does it relate to child abuse? It is the sudden death of a child less than one year of age with no identified cause following a thorough investigation including an autopsy, and death scene investigation. Most cases are infants between 1 and 5 months of age. SIDS deaths occur more often in the winter months, and an association has been postulated with sleeping position, parental smoking or drug abuse, and infant and parent co-sleeping. Although most infant deaths are determined to be due to SIDS, a few deaths have proven to be infanticide. Further studies have identified infants initially presenting with recurrent apneic or cyanotic episodes, who were in fact victims of attempted suffocation (14).

Failure to thrive is defined as a child whose weight is below the 5th percentile for age. Organic causes of failure to thrive are numerous. A thorough history and physical examination will usually identify an organic cause due to neurologic, cardiac, gastrointestinal, genetic, endocrine or respiratory problems. A history of feeding practices, caloric intake and the child's ability to swallow needs to be evaluated. Laboratory studies may include a CBC, urinalysis with culture, blood urea nitrogen, creatinine, calcium, electrolytes, albumin, HIV testing and/or sweat chloride. If no organic cause can be determined, psychosocial causes need to be considered. Common causes are poverty, poor parental-child interactions, and child abuse. The child height, weight and head circumference should be plotted on to a growth chart. Children with non-organic causes of growth failure will show first a loss of weight, then height and lastly a decrease in head circumference. The practitioner may consider admission to the hospital to evaluate the parent-child interaction and the child's ability to gain weight with appropriate caloric intake. If the child gains weight quickly in the hospital with adequate calories, the diagnosis of nonorganic failure to thrive is highly probable. Once this diagnosis is made, a multidisciplinary approach to therapy to required to treat the psychosocial and economic causes while ensuring the safety of the child. Physicians, dietitians, social workers, nurses, and child protective services personnel may all be needed (15).

Perinatal drug abuse can have adverse effects on the fetus and newborn infant. Drugs used by the mother can have teratogenic effects on the fetus, cause premature delivery, growth retardation and cause withdrawal symptoms in the newborn. Perinatal substances abused include cocaine, amphetamines, alcohol, heroin, methadone, and barbiturates. Newborn withdrawal symptoms may include apnea, poor feeding, lethargy, seizures, irritability, tremors, and weight loss. Testing the newborn includes urine or meconium for drug exposure. The testing of newborns can bring into question confidentially concerns, and legal issues. The American Academy of Pediatrics and the American College of Obstetricians and

Gynecologist have taken the position that neonatal drug testing should be preferably performed with the consent of the mother. The information should be used to support rehabilitation of the mother and fostering healthy mother and child interactions without criminal prosecution. However, many states require referral to Child Protective Services and define perinatal drug abuse as child abuse and neglect. States such as California have committed to offering services such as education, and treatment for abuse.

Child abuse is a condition which medical practitioners who care for children will encounter in their practice. Our primary responsibility is the safety and welfare of the children in our care. To ensure that goal is accomplished, we must be advocates for the child and be vigilant in reporting any suspicious child abuse case.

Questions

1. A one year old child presents with facial bruising and a spiral fracture of the right femur. The parents state the child was bouncing on the bed and fell off and hit a nightstand. The leg is splinted in the emergency room. The patient has stable vital signs and does not appear to be in any pain. Child protective services has been contacted and a report has been filed. The hospital social worker wants to discharge the patient home pending the investigation. This child is medically stable for discharge. Should he be sent home?

2. What is Munchausen syndrome by proxy?

3. Define failure to thrive?

4. What is the key to determining nonaccidental injury as opposed to accidental injury?

5. True/False: Bruises that have different coloring can be used to date the time of the injuries.

Related x-rays

Shaken baby case: Yamamoto LG. Toxic Infant With a Full Fontanelle. In: Yamamoto LG, Inaba AS, DiMauro R (eds). Radiology Cases In Pediatric Emergency Medicine, 1994, volume 1, case 1. Available online at: www.hawaii.edu/medicine/pediatrics/pemxray/v1c01.html

Child abuse case with fractures: Boychuk RB. Sudden Thigh Swelling in a 6-Week Old Infant. In: Yamamoto LG, Inaba AS, DiMauro R (eds). Radiology Cases In Pediatric Emergency Medicine, 1995, volume 2, case 17. Available online at: www.hawaii.edu/medicine/pediatrics/pemxray/v2c17.html

Retinal hemorrhages, salt poisoning: Yamamoto LG. Severe Hypernatremia - Salt Poisoning. In: Yamamoto LG, Inaba AS, DiMauro R (eds). Radiology Cases In Pediatric Emergency Medicine, 1995, volume 3, case 14. Available online at: www.hawaii.edu/medicine/pediatrics/pemxray/v3c14.html

Child abuse fractures: Boychuk RB. Bucket Handle and Corner Fractures. In: Yamamoto LG, Inaba AS, DiMauro R (eds). Radiology Cases In Pediatric Emergency Medicine, 1996, volume 4, case 2. Available online at: www.hawaii.edu/medicine/pediatrics/pemxray/v4c02.html

Toddler's fracture: Santhany MD. The Toddler's Fracture: Accident or Child Abuse? In: Yamamoto LG, Inaba AS, DiMauro R (eds). Radiology Cases In Pediatric Emergency Medicine, 1996, volume 4, case 18. Available online at: www.hawaii.edu/medicine/pediatrics/pemxray/v4c18.html

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12. Hadley MN, et al. The infant whiplash shake injury syndrome: A clinical and pathological study. Neurosurgery 1989;24(4):536-540.

13. Meadow R. Munchausen syndrome by proxy. Arch Dis Child 1982;57(2):92-98.

14. Southall DP, et al. Covert video recordings of life threatening child abuse: Lessons for child protection. Pediatrics 1997;100(5):735-760.

15. Schwartz D. Failure to thrive: An old nemesis in the new millennium. Pediatr Rev 2000;21:257-264.

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Answers to questions

1. This child should be admitted to the hospital for his initial management and evaluation of potential child abuse. The hospital can offer the necessary diagnostic studies necessary to determine the presence and extent of other injuries. In addition the hospital environment offers and opportunity to observe child and family interactions by trained staff. It is the obligation of those caring for this child to insure that he be returned to a safe environment (16).

2. It is a unique from of child abuse where the child's caregiver inflicts or fabricates illness on the child.

3. When a child's weight is plotted on a growth curve and is found to be below the 5th percentile for their chronological age.

4. One of the major keys in determining the difference between accidental injuries and abusive ones is that the description of the incidents does not match the injury.

5. False. Many variables can affect the progression of a bruise. Bruises do tend to follow different stages progressing from red to green, yellow, brown and then clearing. An exact time frame cannot be established when the injury occurred, only that some bruises are older than others.

Return to Table of Contents

University of Hawaii Department of Pediatrics Home Page

Case-Based Quiz on Child Abuse

1. A one-year-old child presents with facial bruising and a spiral fracture of the right femur. The parents state the child was bouncing on the bed and fell off and hit a nightstand. The leg is splinted in the emergency room. The patient has stable vital signs and does not appear to be in any pain. Child protective services has been contacted, and a report has been filed. The hospital social worker wants to discharge the patient home pending the investigation. This child is medically stable for discharge. Should he be sent home?

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2. What is *Munchausen syndrome by proxy*?

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3. Define *failure to thrive*.

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4. What is the key to determining nonaccidental injury, as opposed to accidental injury?

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5. True/False: Bruises that have different coloring can be used to date the time of the injuries.

Tinsley, C. (2002). *Chapter XIV.12. Child Abuse.* Case Based Pediatrics For Medical Students and Residents. An Online Introductory Pediatrics Textbook. Department of Pediatrics. University of Hawaii John A. Burns School of Medicine. Kapiolani Medical Center for Women and Children. The Pediatric Tertiary Referral Center of the Pacific. Honolulu, HI. [Online]. Available: http://www.hawaii.edu/medicine/pediatrics/pedtext/pedtext.html [Retrieved 2004, April 30].

Participant's name_____4.6a

Prevent Child Abuse Tennessee

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Being a parent is stressful! If you need someone to talk to call the Tennessee Helpline at 1-800-356-6767

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For information on the 3rd annual **Fun in the Sun Poker Run** on June 12, 2004, please contact the PCAT offices, or click News and Events for more information. To register online for this event, please visit www.active.com

HIGH TEA SOCIAL, June 13, 2004

April 1 - Bredesen signed HJR944 which designates April 2004 as National Child Abuse Prevention Month.

The Department of Children's Services, along with Prevent Child Abuse Tennessee, will take the opportunity to promote awareness as well as prevention of child abuse and neglect throughout the month of April.

To register online or to download a printable registration form, please go to www.active.com **or click to** News and Events **for more information.**

Prevent Child Abuse Tennessee

Home About PCAT How to help Parenting Tips Volunteer

Blue Ribbons Programs News and Events Kappa Delta

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Prevent Child Abuse Tennessee, Inc. (PCAT) is a non-profit agency serving families across the state of Tennessee. The agency's mission is to **prevent child abuse in all forms** by providing support services and education to families whether they are in crisis or simply interested in enhancing their parenting skills.

The services are free, confidential, and available to all families.

PCAT provides the following programs across the state:

CHILDREN'S PROGRAMS
Children are involved in a group setting with a facilitator in activities designed to increase self-esteem while their parents attend Parenting Classes or Parent Support Groups.

CIRCLE OF PARENTS PARENTING CLASSES AND SUPPORT GROUPS
Parenting classes are offered to parents who desire a structured education program, or for parents looking for extra support. Parents learn effective parenting techniques including behavior management, appropriate discipline, child development, and stress management.

For more information on parenting classes, support groups, or children's programs, contact the local program coordinator:

Kristen Rector, 615-383-0994 ext 4.

PARENT HELPLINE/ DOMESTIC VIOLENCE HOTLINE

The Parent Helpline is a 24 hour, toll-free hotline providing supportive listening and information and referral for families experiencing problems or stress. Parents are encouraged to explore solutions to the stresses of parenting, and non-physical forms of discipline are discussed. The line also serves as the state's Domestic Violence Hotline. Victims may call for assistance in locating a safe environment. The toll-free number is 1-800-356-6767, or 356-6767 in the Nashville calling area.

PARENT PATHWAY

Parent Pathway is a program of support and information for families with newborns. Workers are matched with families that are expecting an infant or have a child up to six months old. Through personal contacts, the worker offers parents opportunities to talk about the new baby, parenting, and any concerns or questions they may have. Parent Pathway is a voluntary program and is provided to the families of Tennessee at no cost.

Pathway workers contact parents through home visits, phone calls, and mailings for at least three months. During this time, the worker offers emotional support, discusses infant care and development, models parenting skills, and links the family with community resources.

To find out more, contact the local program coordinator: Shannon Jordan, 383-0994 ext. 5.

PCAT also provides public awareness of child abuse across the state, and assistance to communities interested in developing prevention programs.

The agency provided service to over 14,000 parents and children, and volunteers provided more than 10,000 hours of service to families in 1998.